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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/805,055

03/19/2004

Matthew R. Sivik

3246

7978

7590 02/27/2007
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EXAMINER

LANG, AMY T

ART UNIT

PAPER NUMBER

3731

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/805,055

Applicant(s)

SIVIK ET AL.

Examiner

Amy T. Lang

Art Unit

3731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Response to Arguments

Applicant's arguments filed 12/13/2006 have been fully considered but they are not persuasive.

1. Specifically, applicant argues (A) that the composition of Lange does not comprise grease.

With respect to argument (A), the applicant teaches in the amendment filed 12/13/2006 that "a grease is not a thick oil, but instead is a thickened oil consisting of at least two well defined components (i) a thickener, and (ii) a fluid lubricant." Lange discloses a composition comprising lubricating oil and additives, specifically metal salts of carboxylic acids and urea compounds. Andrew and Caruso further teach that these specific additives are thickening agents utilized in grease compositions. Therefore, it is the examiner's position that Lange does in fact teach (i) a thickener, metal salts of carboxylic acid compounds and urea compounds, and (ii) a fluid lubricant, lubricating oil. Lange, therefore, discloses a grease composition according to the definition provided above.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitation where the range of vinyl aromatic monomer is from 0.7 to 1 mole equivalents compared to the amount of dicarboxylic acid anhydride. The applicant then claims the range of dicarboxylic acid anhydride to vinyl aromatic monomer from 0.7 to 1 mole equivalents. Such a recitation produces a contradiction that renders the scope of the claim indefinite. Thus, if the value of vinyl aromatic monomer is 0.8 mole equivalents to, say, 1 mole equivalents of dicarboxylic acid anhydride then that would give 1.25 mole equivalents of dicarboxylic acid anhydride relative to vinyl aromatic monomer, which is outside the scope of about 0.7 to 1 mole equivalents of dicarboxylic acid anhydride to vinyl aromatic monomer.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3731

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lange (US 6,258,761 B1) in view of Andrew (US 5,585,335) and Caruso (US 4,104,177).

Lange discloses a lubricating composition comprised of an esterified interpolymer derived from monomers of vinyl aromatic monomers and carboxylic acid derivatives (column 1, lines 4-7; column 8, lines 56-63). Since Lange defines an interpolymer as "a polymer derived from two or more different monomers" (column 8, lines 24-30), given that the instantly claimed polymer is also derived from two different monomers, it is evident that the interpolymer disclosed by Lange overlaps the instantly claimed polymer. The esterified polymers are disclosed with specific TAN values of 15 and 12.2 (Example A-1 and Example A-2, column 15)

The vinyl aromatic monomers disclosed by Lange include styrenes, substituted styrenes, and mixtures (column 10, lines 24-36). The carboxylic acid derivative is further disclosed as dicarboxylic acids or anhydrides including maleic anhydride, which clearly overlaps the instant claims (column 10, lines 38-55). The molar ratio of styrene to maleic anhydride is 1-3 to 2-1 (column 12, lines 65-67).

The composition disclosed by Lange is used as a viscosity and dispersant improving additive (column 1, lines 4-7). Therefore, this composition would improve thickening, increase longevity, and decrease wear, which clearly overlaps the instant claim 12.

A method is also disclosed to prepare the composition, which includes mixing the previously disclosed esterified interpolymer with a solvent (column 13, lines 4-20). The interpolymer is then esterified with alcohols having 8 to 22 carbon atoms or ones containing less than 7 carbons atoms and ones containing at least 7 carbon atoms (column 13, lines 54-58; column 14, lines 4-9). The alcohols are used to convert from 80 to 90% of the carboxy groups in the carboxylic acid derivative to ester groups (column 14, lines 18-23). The interpolymer is then reacted with an amine with more than one functional group (column 17, lines 34-40; column 23, lines 2-15; column 30, lines 9-12). The final reactant is combined with lubricating oil and additives (column 34, lines 50-55, line 64 through column 35, line 5).

The final lubricating composition comprises the esterified polymer in amounts from 0.5 to 30 wt%, the lubricating oil being greater than 50 wt%, and the additives from 0.01 to 20 wt% (column 29, lines 38-48). Specific additives are disclosed including metal salts of carboxylic acids and compounds containing urea (column 35, lines 50-53; column 36, lines 61-66).

Lange does not disclose the lubricating composition as a grease composition.

Andrew discloses that metal salts of carboxylic acids are used as thickening agents in lubricating compositions (abstract). This is also reaffirmed by the instant

Art Unit: 3731

specification which discloses that thickening agents as metal salts of carboxylic acids are known in the art (page 10, lines 26-27 of the instant spec.) Caruso discloses that compounds containing urea are also used as thickening agents (column 1, lines 10-12). Therefore, since Lange discloses both compounds in the lubricant, they intrinsically act as thickening agents to produce a grease composition.

Conclusion

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy Lang whose telephone number is (571) 272-9057. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m.

Art Unit: 3731

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anhtuan Nguyen can be reached on (571) 272-4963. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

02/20/2007
Amy T. Lang

ATL


ANH TUAN T. NGUYEN
SUPERVISORY PATENT EXAMINER
